

PARKER RIVER NATIONAL WILDLIFE REFUGE
Newburyport, MA

FY 1989 PRESCRIBED BURNING PLAN

Submitted by: Eric N. Smith Date: October 25, 1988

Reviewed by: John D. Feltz Date: Oct. 25, 1988

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Approved by: _____ Date: _____

I. Area Description

The area to be burned is the Stage Island Pool, a freshwater impoundment of approximately 100 acres. The area has a large amount of edge interspersed with several islands and peninsulas, both shallow and deep water, creating a very diverse habitat. It is bounded by: a dike and upland on the north; upland, which is also the refuge boundary with the Sandy Point State Reservation Area, on the west; upland which is the refuge boundary with the State on south; and the refuge road on the east (see map).

Stage Island Pool has become dominated by emergent vegetation, primarily Phragmites sp., purple loosestrife, and cattail. These fine-to-light fuels are found in pure stands or in varying densities of combinations with one another.

Much of the aquatic vegetation in Stage Island Pool was treated with a herbicide (Rodeo) in the summers of 1987 and 1988. The objective of the prescribed burn is to remove past years' accumulation of dead vegetation, thereby releasing nutrients into the soil and stimulating new plant growth (that which is more beneficial to waterfowl). The area was last burned in the spring of 1985.

II. Burn Plan

Preparation

The preferred time period to conduct the burn is during the month of November, before the refuge deer hunt (scheduled for November 28th, December 2th, December 3th, December 5th, and December 6th). However, if weather conditions do not meet the prescription of this plan or if time is a factor, the burn will be delayed until the spring of 1989, depending on restrictions set by the Massachusetts Department of Environmental Quality Engineering which usually requires all burning to be completed by April 1. Refuge objectives also require that enough time be allowed after the burn for vegetative growth to rebound in time for spring waterfowl use.

In preparation for burning, the water level in Stage Island Pool will be lowered so that there is none standing in the vegetation, but high enough to maintain water in the ditches, and to keep the ground saturated. Maintaining water in the ditches will provide several natural fire breaks as well as an adequate supply of water to operate fire pumps, if necessary. High ground moisture will also prevent a peat fire.

Man-made and natural fire breaks will be utilized to control the fire. On the eastern boundary the refuge road will be closed to vehicular traffic and will act as a firebreak on this side. On the southern and western edges of the pool, a 30-foot^{wide} mowed firebreak will be maintained (along the refuge boundary). The dike and upland area will serve as a firebreak along the northern edge.

Vegetated islands located in the center of the pool are surrounded by water.

Presently, there are four refuge employees who are qualified to conduct prescribed burning and four additional non-fireline personnel who can assist with equipment transfer/operation. Equipment that will be needed are backpack pumps (4), shovels (2), fire rakes (2), 200-gallon pumper unit w/ 1 1/2 inch hose, drip torches (2), and portable radios. Ignition will be performed by two 2-man burn teams. A pumper unit will back up each team, the second unit to be provided by the State.

Ignition

A high pressure system with west-northwest winds at 5-15 mph is desired, however, the burn can be accomplished under southwest winds at the same velocity. This is necessary for smoke management. The pool will be inspected for fuel and soil moisture content. The burn will take place between 10:00 AM and 4:00 PM to allow time for evaporation of morning moisture and to pre-warm the fuels. The local fire department will be notified of the refuge's prescribed burning plans for the day.

On the day before the burn is scheduled, after the refuge closes for the evening, refuge officers will close the road below Parking Lot #5. The next morning, if weather conditions are not acceptable for burning, the road will be reopened. If weather conditions are acceptable, the road will remain closed until burning is complete.

Just before ignition the area will be re-evaluated and a staff member posted in the observation tower with a radio. The duties of this person will be to monitor changes in wind direction or other weather conditions, as well as to monitor the upland areas around Stage Island Pool for spot fires. That person will maintain contact with refuge headquarters and ground personnel working the fireline.

Two separate procedures will be followed for the sequence of ignition, depending on the wind direction.

West-Northwest Wind

Ignition will occur in the southeast corner of the pool, near the observation tower. Both burn teams will begin at this point (see map). Team 1 will continue firing slowly north along the refuge road until the dike is reached. Team 2 will proceed west, firing along the firebreak until the dike is reached. A pumper truck unit will be positioned along the refuge road. The other unit will be positioned along the access road, which parallels the refuge boundary and mowed firebreak.

*How about
Radio Station?
Police? NEWS
release to
local com-
munities*

*? What
equipment
will they have
to do this?*

head start

Once these backfires have been set, Team 1 will begin igniting along the water's edge, allowing the wind to carry the fire and maximize the burn of the eastern edge of the pool. Team 2 will proceed to the northern tip of the impoundment and ignite a head fire southward along the dike. Burning in this area will be a slow process because vegetation is in a band varying in width between 4 and 150 feet. Water is easily available here for fire control, if necessary. The pumper unit will reposition itself to the dike road.

Any small pockets of vegetation remaining in the center of the pool will be burned individually, once head and back fires have extinguished themselves. This will end the prescribed burn for this impoundment.

Southwest Wind

If the preferred northwest winds do not arrive during the time planned for the burn, the burn will be accomplished under southwest winds by the following procedure.

Team 1 - head start Ignition will occur in the northeast corner of the pool, near the dike. Team 1 will proceed south, firing along the refuge road until the southeast corner (near the observation tower) is reached. A pumper unit will stand by along the road. Team 2 will begin at the same ignition point and backfire south along the dike road, until reaching the refuge boundary. The second pumper unit will stand by on the dike road. Both burn teams will then ignite a head fire-- Team 1 proceeding west along the boundary, Team 2 proceeding east-- until the teams meet. The pumper unit that was positioned along the refuge road will move to the boundary access road during this time.

Once the two fires have run their course, any small pockets of vegetation remaining will be burned individually. This will end the prescribed burn for this impoundment.

Mopup

The circumference of the pool will be patrolled and hot spots extinguished as they are discovered. Both burn teams, one pumper unit, and the observation tower lookout will remain until it is determined that the area is safe to abandon.

REFUGE HEADQUARTERS

PARKER RIVER NATIONAL
WILDLIFE REFUGE

N

NEWBURYPORT

SITE OF
FUTURE
HEADQUARTERS

MAIN GATE
IS ONLY
LEGAL ACCESS

ATLANTIC
OCEAN

PLUM

PLUM
RIVER

PARKER RIVER

MAINTENANCE
AREA

PINE GROVE

NORTH POOL

BROAD
SOUND

ISLAND

BILL FORWARD POOL

BOUNDARY EXTENDS
TO MEAN LOW TIDE

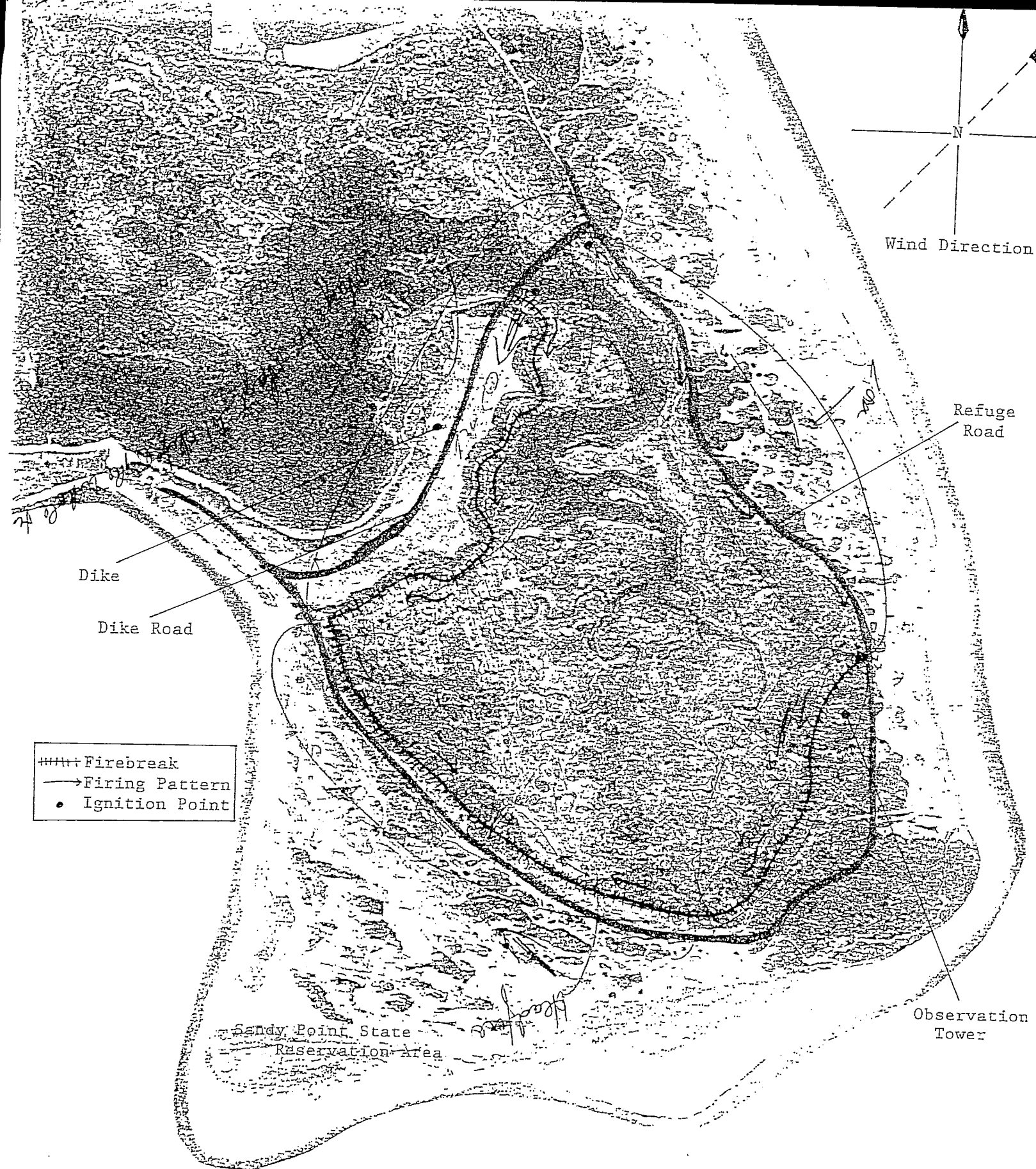
ROWLEY RIVER

LEGEND

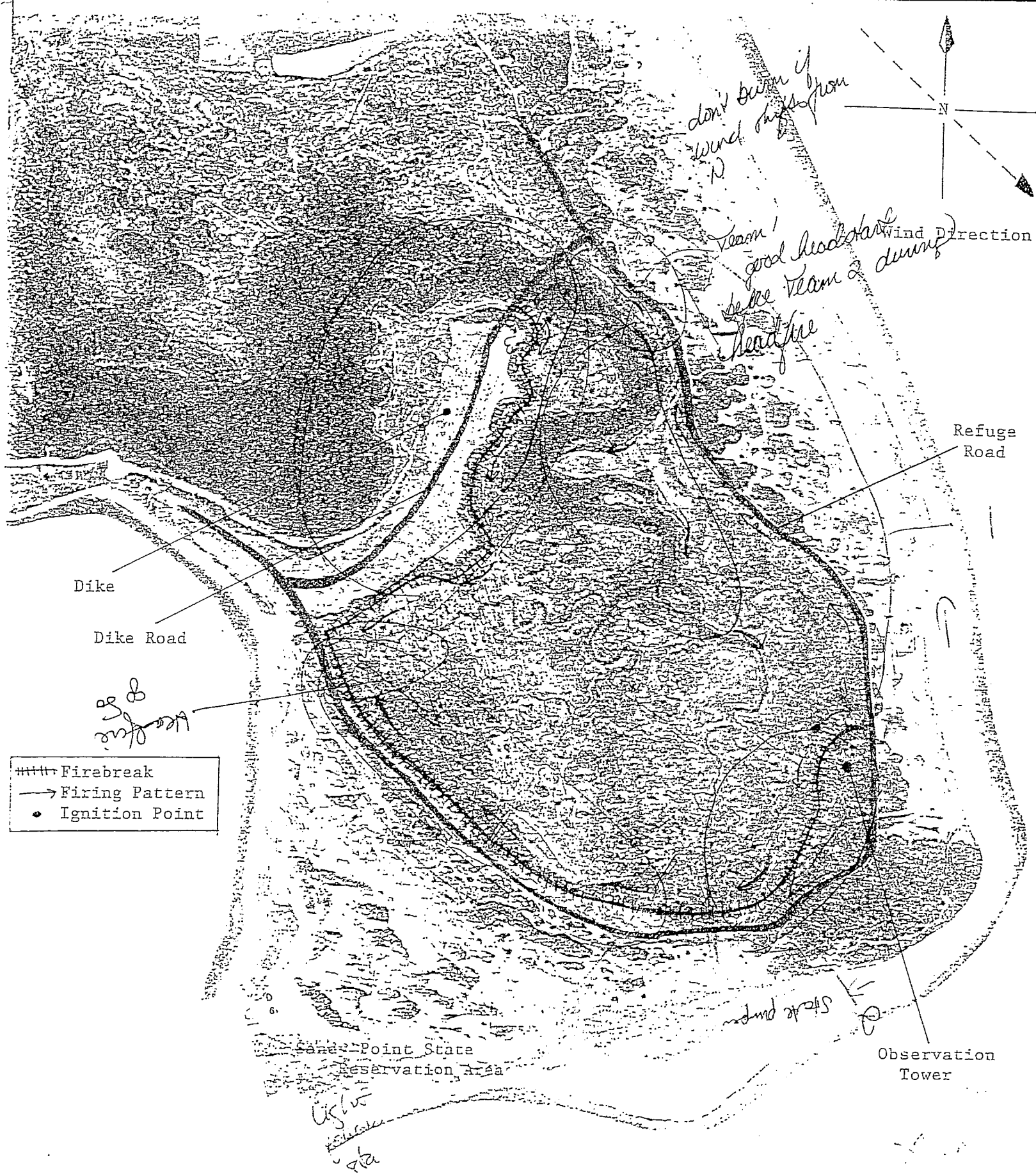
- 1 Parking Lot
- Road for Public Access
- Dike
- Boardwalk to Beach
- ORV Access Trail (4WD)
(Permit Required)
- Walking Trail
- Observation Tower
- Photography Blind
- Refuge Boundary

SANDY POINT
STATE RESERVATION

STAGE
ISLAND
POOL



→ ok w/ deer hunters



STAGE ISLAND POOL

Burn Sequence for West-Northwest Wind